Islamic university

Radiology techniques Department/ Third Stage

Practical Pathology

Lab.4

By MSc. Nadia Alshabanii

MSc. Ali Alruazik

SLIDE PREPARATION

Main Topics of this lab:

- Steps of slide preparation.
- What is the characteristic of each type?
- Definition f dehydration
- The meaning of clearing ?
- The different between the each type

1. Fixation
    - Maintain natural state of the specimen
    - Facilitate proper staining of the tissue

    Characteristics of good fixations
    - Penetrate quickly
    - Prevent tissue from shrinkage

    Examples of good fixatives
    - Formaldehyde
    - Osmic acid
    - Picric Acid

2. **Washing**
    - **Washing For removal of fixative 6-8 hours under tap water**

3. **Dehydration**
    - **Removal of water**
    - **Alcohols are most commonly used for dehydration**
    - **Different percentages of alcohols are used for different periods**
    - **30%, 50 %, 70% alcohols for two hours**
    - **80%, 95% for 1 hour**
    - **100% for 1/2 hour**

MSc. Nadia Habeeb
MSc. Ali alruazik

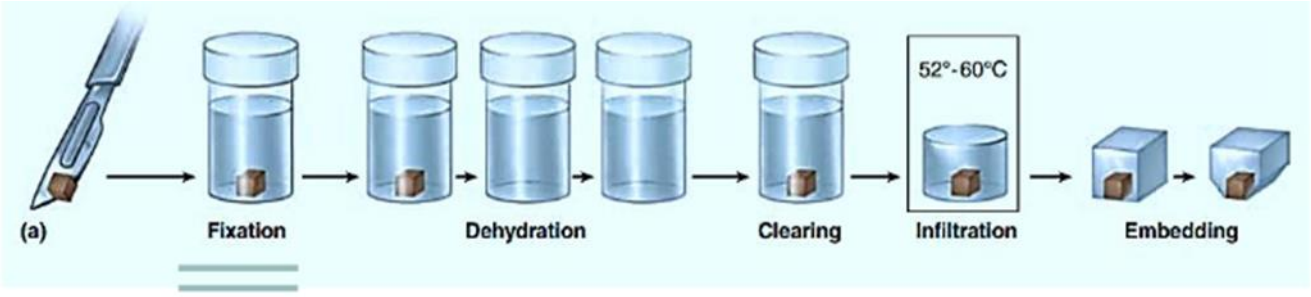
4. Clearing
    - Removal of dehydrating agent
    - Clearing agents are miscible with both embedding medium and dehydrating agents
    - xylene, toluene, and chloroform is used as clearing agents

5. Wax infiltration
    - Replace xylene with paraffin
    - The specimen is immersed in melted paraffin.
    - Removes all bubbles and xylene.

    Procedure
    - Two baths of melted paraffin.
    - Leave the tissue in one hour in melted paraffin
    - Put the tissue in in fresh paraffin and melt it again

6. Embedding or blocking out
- Allow the melted wax to be solidify
- Place the tissue cassette in a mold filled with melted paraffine
- The specimen is very carefully oriented in the mold because its orientation will determine the plane of section
- Allow to cool

7. sectioning – trimming the block
   the block with it attached cassette can be removed from the mold and now is ready for microtomy



MSc. Nadia Habeeb
MSc. Ali alruazik